# American Community Survey Design and Methodology (January 2014)

# Chapter 5: Content Development Process





ACS Design and Methodology (January 2014) – Chapter 5: Content Development Process Page ii
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# **Table of Contents**

Chapte	r 5: Content Development Process	Ĺ
5.1	Overview	1
5.2	History of Content Development	l
5.3	Initial ACS/PRCS Content – 2003-2007 Content	2
5.4	Content Policy and Content Change Process	1
5.5	Content Testing and the ACS Methods Panel	7
5.6	Content Testing, 2006 to 2009	7
5.7	2008-2009 ACS	3
5.8	2010-2012 Content Testing	3
5.9	2010-2013 ACS	)
5.10	References	l
	Figures	
Figure 5	-1: Examples of two ACS questions modified for the PRCS	1
Figure 5	2-2: Changes to the ACS Paper Questionnaire Form between 2010 and 2013	)
	Tables	
Table 5-	1: 2014 ACS Topics Listed by Type of Characteristic and Question Number	3

ACS Design and Methodology (January 2014) – Chapter 5: Content Development Process Page iv
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# **Chapter 5: Content Development Process**

### 5.1 Overview

American Community Survey (ACS) content is designed to meet the needs of federal government agencies and is a rich source of local area information useful to state and local governments, universities, and private businesses. The U.S. Census Bureau coordinates the content development and determination process for the ACS with the Office of Management and Budget (OMB) through an interagency committee comprised of more than 30 federal agencies. All requests for content changes are managed by the ACS Content Council, whose role is to provide the Census Bureau with guidelines for pretesting, field testing, and implementing new content and changes to existing ACS content. This chapter provides detail on the history of content development for the ACS, current survey content, and the content determination process and policy. Especially noteworthy for this Design and Methodology Report is the creation of a new group to provide additional advice and counsel to the OMB and the Director of the Census Bureau on how the ACS can best fulfill its role in the portfolio of Federal household surveys and provide the most useful information with the least amount of burden.

# **5.2** History of Content Development

The ACS is part of the 2010 Decennial Census Program and is an alternative method for collecting the long-form sample data collected in the last five censuses. The long-form sample historically collected detailed population and housing characteristics once a decade through questions asked of a sample of the population. Beginning in 2005, the ACS collects this detailed information on an ongoing basis, thereby providing more accurate and timely data than was possible previously. Since 2010, the decennial census only includes a short form that collects basic information for a total count of the nation's population.

Historically, the content of the long form was constrained by including only the questions for which:

• There was a current federal law calling for the use of decennial census data for a particular federal program (mandatory).

Version 2.0 January 30, 2014

Sampling began in the 1940 census when a few additional questions were asked of a small sample of people. A separate long-form questionnaire was not implemented until 1960.

In addition to counting each person in every household, the basic information included on the 2010 Census short form included a very select set of key demographic characteristics needed for voting rights and other legislative requirements, including tenure at residence, sex, age, relationship, Hispanic origin, and race.

- A federal law (or implementing regulation) clearly required the use of specific data, and the decennial census was the historical or only source; or case law requirements imposed by the U.S. federal court system (required) needed the data.
- The data were necessary for Census Bureau operational needs and there was no explicit requirement for the use of the data as explained for mandatory or required purposes (programmatic).

Constraining the content of the ACS was, and still is, critical due to the mandatory reporting requirement and respondent burden. To do this, the Census Bureau works closely with the OMB and the Interagency Committee for the ACS, co-chaired by the OMB and the Census Bureau. The Interagency Committee for the ACS was established in July 2000, and includes representatives from more than 30 federal departments and agencies that use decennial census data. Working from the Census 2000 long-form justification, the initial focus of the committee was to verify and confirm legislative justifications for every 2003 ACS question. The members examined each question and provided for their agency justification(s) by subject matter, the legal authority for the use, the lowest geographic level required, the variables essential for crosstabulation, and the frequency with which the data are needed. They cited the text of statutes and other legislative documentation and classified their uses of the ACS questions as "mandatory," "required," or "programmatic," consistent with the constraints of the traditional long form.

In the summer of 2002, the U.S. Department of Commerce General Counsel's Office asked each federal agency's General Counsel to examine the justifications submitted by committee for its agency and, if necessary, to revise the information so that the agency would be requesting only the most current material necessary to accomplish the statutory departmental missions in relation to census data. This step ensured that the highest-ranking legal officer in each agency validated its stated program requirements and data needs. Since 2002, the process of examining the justifications for each question has been repeated several times. This updating process occurred most recently in 2012. Under the leadership of OMB, a request was sent to Federal agencies to link ACS content to Federal Agency requirements to ensure that federal needs for ACS data are clearly authorized.

Only those questions whose subjects were classified as either "mandatory" or "required" were included on the 2003 ACS questionnaire, along with questions on two programmatic subjects (fertility and seasonal residence). The result of this review was a 2003 ACS questionnaire with content almost identical to the Census 2000 long form. In 2002, OMB, in its role of implementing the 1995 Paperwork Reduction Act, approved the ACS questionnaire for three years.

### 5.3 Initial ACS/PRCS Content – 2003-2007 Content

In 2003-2007, the ACS consisted of 25 housing and 42 population questions (six basic and 36 detailed population questions). (See Table 5-1 for a complete list of ACS topics.) The ACS GQ

questionnaire consisted of every population question in the population column of Table 5-1, with the exception of the relationship to householder question. The ACS GQ questionnaire also includes one housing question, the food stamp benefit question.

Table 5-1: 2014 ACS Topics Listed by Type of Characteristic and Question Number

Housing	Population
H1 Units in Structure	P1 Name
H2 Year Structure Built	P2 Relationship to Householder
H3 Year Householder Moved into Unit	P3 Sex
H4 Acreage	P4 Date of Birth
H5 Agriculture Sales	P5 Hispanic Origin
H6 Business on Property	P6 Race
H7 Rooms and Bedrooms	P7 Place of Birth
H8 Plumbing and Kitchen Facilities, Telephone Service	P8 Citizenship
H9 Computer Use	P9 Year of Entry
H10 Internet Accessibility	P10 Type of School and School Enrollment
H11 Internet Subscription	P11 Educational Attainment
H12 Vehicles Available	P12 Field of Degree
H13 House Heating Fuel	P13 Ancestry
H14 Cost of Utilities	P14 Language Spoken at Home, Ability to Speak English
H15 Food Stamp Benefit	P15 Residence 1 Year Ago (Migration)
H16 Condominium Status and Fee	P16 Health Insurance
H17 Tenure	P17 Disability: Sensory, Physical
H18 Monthly Rent	P18 Disability: Mental, Self-Care
H19 Value of Property	P19 Disability: Going out Alone, Ability to Work
H20 Real Estate Taxes	P20 Marital Status
H21 Insurance for Fire, Hazard, and Flood	P21 Marital History
H22 Mortgage Status, Payment, Real Estate Taxes	P22 Number of Times Married
H23 Second or Junior Mortgage Payment or Home Equity Loan	P23 Last Year Married
H24 Mobile Home Costs	P24 Fertility
	P25 Grandparents as Caregivers
	P26 Veteran Status
	P27 Years of Military Service
	P28 Veterans Disability
	P29 Worked Last Week
	P30 Place of Work
	P31 Means of Transportation
	P32 Private Vehicle Occupancy
	P33 Time Leaving Home to Go to Work
	P34 Travel Time to Work
	P35 Layoff, Temporarily Absent, Informed of Recall or Return
	P36 Looking for Work
	P37 Available for Work
	P38 When Last Worked
	P39 Weeks Worked
	P40 Usual Hours Worked Per Week
	P41 Class of Worker
	P42 Name of Employer
	P43 Type of Business
	P44 Business Classification
	P45 Occupation
	P46 Primary Job Activity
	P47 Income in the Past 12 Months (by type of income)
	P48 Total Income

# Puerto Rico Community Survey (PRCS) Content

The content for the PRCS is identical to that used in the United States (ACS) with the exception of six questions worded differently to accommodate cultural and geographic differences between the two areas. (See Figure 5-1 for an example of ACS questions modified for the PRCS.)

(	Does this house, apartment, o	r mobil	le	•	Does this house, apartment, or	mobil	e
Ì	home have -	Yes	No		home have –	Yes	No
	a. hot and cold running water?				a. running water?		
	b. a flush toilet?				b. a water heater?		
	c. a bathtub or shower?				c. a flush toilet?		
	d. a sink with a faucet?		П		d. a bathtub or shower?		
		_			e. a sink with a faucet?		
	e. a stove or range?				f. a stove or range?		
	f. a refrigerator?				g. a refrigerator?		
	g. telephone service from which you can both make and receive calls? <i>Include</i> <i>cell phones</i> .				h. telephone service from which you can both make and receive calls? <i>Include</i> <i>cell phones</i> .		
9	When did this person come to livunited States? Print numbers in b		e	•	When did this person come to live Puerto Rico? Print numbers in boxe Year		
	ACS (2013)				PRCS (2013)		

Figure 5-1: Examples of two ACS questions modified for the PRCS

# 5.4 Content Policy and Content Change Process

In 2006, the ACS content development and change process hinged on the status of a question as "mandatory," "required," or "programmatic," consistent with the constraints of the traditional long form.

In 2006, the OMB, in consultation with Congress and the Census Bureau, adopted a more flexible approach to content determinations for the ACS. In the new content determination process, the OMB, in consultation with the Census Bureau, will consider issues such as frequency of data collection, the level of geography needed to meet the required need, and other sources of data that could meet a requestor's need in lieu of ACS data. In some cases, legislation still may be needed for a measure to be justified for inclusion in the ACS. In other cases, OMB may approve a new measure based on an agency's justification and program needs.

The Census Bureau recognizes and appreciates the interests of federal partners and stakeholders in the collection of data for the ACS. Because participation in the ACS is mandatory, the OMB will only approve necessary questions for inclusion on the ACS. The OMB's responsibility under the Paperwork Reduction Act requires that new questions demonstrate the practical utility of the data and that the respondent burden be minimized (especially for the mandatory ACS collections).

The Census Bureau's ACS Content Policy is used as a basic guideline for handling all new question proposals from federal agencies, the Congress, and the Census Bureau. The content change process is part of a risk management strategy to ensure that each new or modified question has been tested fully and will collect quality data without reducing overall response rates.

One vision for the ACS that emerged as the early years of the ACS program was that of a national resource to address emerging policy questions in the public sector. The idea that the ACS could be flexible, providing more frequent opportunities to add new content, via new questions on the ACS itself, or though follow-on or supplementary modules, was put forward in discussions with federal agencies about the program's future. Because response to the survey is required by law, the ACS has generally attained very high participation rates relative to other Federal government surveys, so for users concerned about statistical bias due to nonparticipation, the ACS estimates are attractive. Also, the continuing efforts to improve the Census Bureau' Master Address File that is used for the decennial census, ACS, and other surveys the Census Bureau conducts make the ACS attractive in terms of its coverage rates.

At the same time, and serving to counterbalance this vision, the OMB and the Census Bureau recognized the need to develop priorities for including questions on the ACS and ensure that common decision criteria were used to add or delete a question from the ACS, to use the ACS as a frame for follow-on surveys, or include a module of questions for a subsample of ACS cases. This recognition, and guidance from the OMB that the respondent burden for completing the ACS (measured as the number of minutes each respondent requires to complete the ACS form), would remain fixed, led to the creation of a group tasked with advising the OMB and Census Bureau on issues related to content practices and policies.

The policy provides guidance for ongoing ACS content development. To implement this policy, the Census Bureau coordinates input from internal and external groups, while the OMB Interagency Committee for the ACS obtains broad input from all federal agencies. The Census Bureau also coordinates the creation of subject-area subcommittee groups that include representatives from the Interagency Committee and the Census Bureau; these groups provide expertise in designing sets of questions and response categories so that the questions will meet the needs of all agencies. Census Bureau staff review the subcommittee proposals and provide comments and internal approval of content changes.

The ACS Content Change Process provides guidance for Census Bureau pretesting, including a field test, for all new or modified questions prior to incorporating them into ACS instruments; this guidance is based on the standards outlined in the *Census Bureau Standard: Pretesting Questionnaires and Related Materials for Surveys and Censuses* (DeMaio, Bates, Ingold, and Willimack 2006). The Census Bureau will add new pretested questions to the ACS only after the OMB gives approval.

In 2012, the Interagency Council on Statistical Policy Subcommittee on the ACS (ICSP-SACS) was established and tasked with assisting the OMB and Census Bureau through annual and ad hoc activities to review the justifications for ACS questions and propose priorities for including questions on the ACS.

The Charter of the Interagency Council on Statistical Policy Subcommittee on the American Community Survey<sup>3</sup> describes the governing authority for the ICSP-SAC. This document will be updated from time to time as the responsibilities of the subcommittee evolve. Membership on the ICSP-SAC includes representatives from federal statistical agencies and major statistical programs, some of whom serve on rotating basis.

### **Content Change Factors**

The OMB and the Census Bureau consider several factors when new content is proposed. Federal agencies must provide both agencies with specific information about the new data collection need(s).

The uses of the data must be identified to determine the appropriateness of collecting it through a national mandatory survey. Other Census Bureau surveys or other sources of data are reviewed and considered. Because ACS data are collected and tabulated at the tract or block-group level, the response burden for the majority of respondents must be considered.

Federal agencies interested in content changes must be able to demonstrate that they require detailed data with the frequency of ACS data collection, and that failure to obtain the information with this frequency will result in a failure to meet agency needs. Requests for new ACS content are assessed relative to the impact on the requesting agency if the data are not collected through the ACS. Federal agencies requesting new content must demonstrate that they have considered legitimate alternative data sources, and why those alternatives do not meet their needs.

### **Content Change Requirements**

Federal agency or Census Bureau proposals for new content and/or changes to existing ACS questions due to identified quality issues are subject to the following requirements:

 ACS content can be added to or revised only once a year, due to the annual nature of the survey and the number of operations that also must be revised. New content is incorporated into the ACS only after pretesting, potentially including a field test, has been completed, and the OMB has provided final approval.

Version 2.0 January 30, 2014

<sup>&</sup>lt;sup>3</sup> Charter (2012)

- The requesting federal agency assists with the development of a draft question(s), works
  with the Census Bureau and other agencies to develop or revise the question, and submits
  the proposal to the OMB and Census Bureau for further review. In addition, a plan to
  pretest new or modified content, including a field test, must be developed in accordance
  with the Census Bureau Standard: Pretesting Questionnaires and Related Materials for
  Surveys and Censuses.
- Pretesting must be conducted to detect respondent error and to determine whether a
  change would increase or decrease a respondent's understanding of what is being asked.
  Alternative versions of questions are pretested to identify the version most likely to be
  answered accurately by respondents, and then are field tested.

# 5.5 Content Testing and the ACS Methods Panel

The Census Bureau uses the term "content tests" in describing the testing, research, and evaluation processes used to determine the best wording, format, and placement of proposed new questions or revisions to existing questions on the ACS. Content tests are one of several kinds of tests the Census Bureau conducts as part of the ACS Methods Panel. The ACS Methods Panel tests, in addition to content, proposed improvements to ACS data collection methods and techniques. Such improvements include, for example, the addition to the initial ACS mailing package of a brochure assisting speakers of languages other than English; the use of a new format to organize questions and guidance provided on the ACS questionnaire; or the development of new instructions used by ACS interviewers for the CAPI phase of data collection. This chapter will focus on content testing alone. Descriptions of other kinds of methods panel testing are included in other chapters of this report.

The methodology used for content testing is designed to be similar to ACS data collection in a regular production cycle. The Census Bureau collects data on the quality of the responses obtained in the test. Response variance, gross difference rates, item nonresponse rates, and measures of distributional changes from the regular production cases serve as indicators of the quality of the test questions relative to current ACS questions. Content testing and analysis takes place over approximately two years, so that the results are not implemented until at least two years following the date associated with the content test. The following sections describe Content Tests conducted in 2006, 2007, and 2010, and the implementation of testing results in the content of the 2008, 2009, and 2013 ACS, starting with the 2006 ACS Content Test and concluding with the implementation of the 2013 ACS.

# **5.6** Content Testing, 2006 to 2009

In 2004, planning began for the 2006 ACS Content Test, so Census could field-test the content changes in the ACS before it finalized the 2008 ACS questionnaire. Consistent with procedures described above, the OMB and the Census Bureau first asked members of the ACS Interagency

Committee to review the legislative authority for current or proposed ACS questionnaire content and to identify any questions that needed to be reworded or reformatted.

The 2006 ACS Content Test was the first opportunity to test revisions to the long-form sample questions used in Census 2000. The content of the 2006 ACS Content Test included new questions on the subjects of marital history, health insurance and coverage, and veterans' service-connected disability ratings.

In 2006, the National Center for Education Statistics (NCES) began work with the U.S. Census Bureau, as well as two groups of academic researchers, to develop and test alternative formats of a Field of Degree question that asked the field of degree for a person having a bachelor's degree or higher level of educational attainment. Based on the preliminary research, Census developed and tested two alternative formats of the question in the Census Bureau's 2007 ACS Methods Test, completed in fall 2007. The result of the Field of Degree Content Test was to use an open ended question for field of degree.

In 2008, no content or other kinds of Methods Panel testing took place because of the unavailability of funding. In 2009, ACS Methods Panel testing did not include any content testing.

# 5.7 2008-2009 ACS

Reflecting the results of the 2006 Content test, the 2008 ACS included new questions on health insurance coverage, marital history, and Veterans Administration (VA) service-connected disability. Revisions to existing questions were also implemented in the 2008 ACS.

In 2009, the Census Bureau added a field of degree question with an open-ended response category to the 2009 ACS as Question 12. Other changes from the 2008 ACS to the 2009 ACS were relatively few and minor compared to comparable changes from 2007 to 2008. Changes to the ACS questionnaire from 2005 to 2009 are described in detail at: <a href="http://www.census.gov/acs/www/Downloads/questionnaires/SQuestChanges05to09.pdf">http://www.census.gov/acs/www/Downloads/questionnaires/SQuestChanges05to09.pdf</a>

# **5.8 2010-2012** Content Testing

In response to federal agencies' requests for new and revised ACS questions, the Census Bureau conducted the 2010 ACS Content Test. The Interagency Committee for the ACS helped identify possible changes to ACS content and additional new content that would be the subject of testing. The primary objective was to test whether changes to question wording, response categories, and the redefinition of underlying constructs could improve the quality of the data collected. The Census Bureau proposed to evaluate changes to the questions, or, for new questions, to compare the performance of question versions to each other as well as to other well-known sources of such information. The proposed topics for content testing were new questions on computer and Internet usage and parental place of birth, and revisions to veteran's identification and period of

service, cash public assistance income, wages and property income, and the Food Stamp program name.

### 5.9 2010-2013 ACS

Figure 5-2 identifies changes to the ACS paper questionnaire form between 2010 and 2013.

Questions	2010	2011	2013	
Housing Questions				
Computer Use			N	
Internet Accessibility			N	
Internet Subscription			N	
Food Stamp Benefit	R			
Population Questions				
Veteran Status			R	
Period of Military Service			R	
Income in the Past 12 Months by Type of Income			R	
Total Income			R	
Administrative Pages				
Revised page flow instructions		R		
Cover Page/Front Page			R	
R = Revised N =New				

# Description of change

2010

Food Stamp Benefit: Revised the Food Stamp Benefit Question to include the official name for the Food Stamp program (The Supplemental Nutritional Assistance Program) "SNAP" and included additional respondent's instructions about "WIC", the School Lunch Program and the Food Banks

### 2011

Revised the instructions located at the end of each detailed person questions' page

### 2013

- Revised the cover page to include the URL for the Internet Data Collection Mode of the survey https://respond.census.gov/acs
- Added a new question about the type of personal computer the respondent owns and additional instructions were included on which computer devices to exclude from the answer
- Added a new question about internet accessibility
- Added a new question about internet subscription
- Veteran Status: The answer categories were reduced from five answer choices to four answer choices
- Period of Military Services: Reduced the number of answer categories from eleven to nine by merging four categories into two. Merged May 1975 to August 1980 and September 1980 to July 1990 into one category, September 1980 to July 1990. Merged February 1955 to February 1961 and March 1961 to July 1964 into one category February 1955 to July 1964
- Income in the Past 12 Months by Type of Income: Increased write-in field length by one for 47a, 47b, and 47c and 48

Figure 5-2: Changes to the ACS Paper Questionnaire Form between 2010 and 2013

A full description of the overall 2010 ACS Content Test and topic-specific research objectives, methodology, and empirical results is available at:

http://www.census.gov/acs/www/library/by\_series/content\_test\_evaluation\_reports/

Based on results of the 2010 Content Test, one new question topic, computer ownership and internet usage, was added. In addition, OMB approved the modification of one housing question and four population questions for the 2013 ACS: veterans status and period of service; wages, interest/dividends income; public assistance income; and food stamps.

## **Computer and Internet Usage**

As authorized by the Broadband Data Improvement Act of 2008, the Federal Communications Commission sponsored the computer and Internet usage topic. The Broadband Data Improvement Act requires that the Secretary of Commerce, in consultation with the Federal Communications Commission, expand the American Community Survey to elicit information from residential households, including those located on native lands, to determine whether persons at such households own or use computers at their address, whether persons subscribe to Internet service and, if so, whether they subscribe to dial-up or broadband Internet service at that address. The additions to the questionnaire consist of three questions with a mix of fixed choice and open-ended responses.

### **Modified Questions**

At the request of the Food and Nutrition Service, Census revised one housing question on food stamps to incorporate the program name change to the Supplemental Nutrition Assistance Program (SNAP). The Census Bureau revised the property income and wage questions to improve response by breaking up these questions into shorter pieces to improve comprehension when an interviewer asked the questions. Census incorporated this change into the interviewer-administered modes only. At the request of the Department of Veteran Affairs, Census revised the veteran status and period of service questions to simplify the reporting categories. The new version is for all collection modes.

# 5.10 References

DeMaio, Theresa J., Nancy Bates, Jane Ingold, and Diane Willimack (2006). "Pretesting Questionnaires and Related Materials for Surveys and Censuses." Washington, DC: U.S. Census Bureau, 2006.

Charter of the Interagency Council on Statistical Policy Subcommittee on the American Community Survey, available at

http://www.census.gov/acs/www/Downloads/operations\_admin/ICSP\_Charter.pdf